

From: McCray, Sean-Ryan CTR NAVFAC PAC [/O=ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=SEAN-RYAN.MCCRAY0EC]

Sent: Tuesday, February 5, 2019 12:09 PM

To: Bercik, Lisa M. [lisa.bercik@aptim.com]

Subject: Parcel F RTC's 6A

Attachments: Parcel F Structures Comments CDPH 01.30.19.pdf

Lisa,

I just took a look and I'm not sure 6A is cut off. Can you confirm? I've included the attachment and a screenshot, in the case that the Navy email is messing up the attachment.

6. Section 5.5.2 ("Gamma Surface Scan Minimum Detectable Concentration"), Pages 5-6 and 5-7, First sentence:

- a. "The gamma surface scan MDC was determined for identifying intact deck markers containing ²²⁶Ra or ⁹⁰Sr attached to the surface being investigated (Appendix D)." The HRA does not list deck markers as a contaminant of concern for the structures. Furthermore, the last sentence of the first paragraph of Section 2.3 states, "However, it is more likely traces of radioactivity from damaged, discarded, or lost devices could be present on surfaces associated with the Parcel F structures, although the probability of residual radioactivity from radioluminescent devices is still low." Additionally, Section 2.3 ("Nature and Extent of Contamination"), Page 2-3, Sentences 5-7 states, "Radioactive wastes were typically sealed in drums or other packages for transport, and may have been staged on piers or alongside ship berths prior to loading the waste onto barges. The potential for residual radioactivity at the submarine pens and piers from leaking waste packages is low." Both of these origins of contamination tend to yield

Using the current iteration of the report (i.e., the SUs classified, as MARSSIM class 3), the MDCR values presented in Appendix D are not understood. Please explain the choice of intact deck markers as the sole input to the MDCR calculations.

California Department of Public Health-Environmental Management Branch (CDPH-EMB) Review

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State of California—Health and Human Services Agency
California Department of Public Health

KAREN L. SMITH, MD, MPH
Director and State Public Health Officer



Gavin C. Newsom
Governor

DATE: January 24, 2019

TO: Nina Bacey
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FROM: Sheetal Singh 
Senior Health Physicist
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SUB: CDPH-EMB review of the **FINAL Rev 1 Radiological Characterization Surveys Work Plan Parcel F Structures, Hunters Point Naval Shipyard, San Francisco, California.** Issued November 23, 2018.

As submitted by the California Department of Toxic Substances Control (DTSC), Environmental Management Branch (EMB) of the California Department of Public Health (CDPH) reviewed FINAL Rev 1 *Radiological Characterization Surveys Work Plan Parcel F Structures*, Hunters Point Naval Shipyard, San Francisco, California. This review was performed in support of the Interagency Agreement between DTSC and CDPH.

If you have any questions concerning this review, or if you need additional information, please contact Shane Reese at (916) 210-8554.



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The Environmental Management Branch (EMB) of the California Department of Public Health (CDPH) appreciates the opportunity to review the submitted document, *FINAL Rev 1 Radiological Characterization Surveys Work Plan Parcel F Structures*, Hunters Point Naval Shipyard, San Francisco, California. Issued November 23, 2018.

General Comments:

1. The California Department of Public Health - Environmental Management Branch (CDPH-EMB) utilizes the California Code of Regulations (CCR), Title 17, Section 30256(k), which requires:
 - a. Radioactive material be properly disposed;
 - b. A reasonable effort has been made to eliminate residual radioactive contamination;
 - c. A radiation survey has been performed which demonstrates that the premises are suitable for release for unrestricted use.

In practice this means employing the decision making process outlined in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM, NRC et al, 1997), which includes establishing a reference background area for each of the materials to remain in situ. These reference background measurements are then compared to survey units (SUs).

2. CDPH-EMB requests an elevated classification of the Survey Units (SUs) based on the Historical Radiological Assessment (HRA, 2004) identified activities, and recent developments at locations on Hunters Point Naval Shipyard previously identified as "unlikely" or "non-impacted". Raising the classification will adjust SU size and switch sampling efforts from random locations to a systematic grid. This will promote confidence in the scoping effort through greater statistical assurance.
3. It is the understanding of CDPH-EMB that the intent of this project is to perform a MARSSIM style scoping survey. If CDPH-EMB is correct in its understanding, please adjust the title and content of this document to reflect a scoping survey rather than a characterization survey.

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Specific Comments:

4. Section 1.0 ("Introduction"), Page 1-1, Paragraph 5, Last full sentence on page:
"The objective of this Work Plan is to describe radiological characterization surveys designed to provide results with sufficient quantity and quality to meet the requirements of a final status survey and achieve unrestricted release for Parcel F structures." It is the understanding of CDPH-EMB that unrestricted release is no longer sought. Please clarify the goal of this project. Also, please refer to comment #3
5. Section 5.4.5 ("Step Five – Develop a Decision Rule"), Page 5-4, First sentence:
"If the mean results of the survey are consistent with the release criteria (Table 1), the data will be used to support free release of the structures." Please refer to General Comment # 1.
6. Section 5.5.2 ("Gamma Surface Scan Minimum Detectable Concentration"), Pages 5-6 and 5-7, First sentence:
 - a. "The gamma surface scan MDC was determined for identifying intact deck markers containing ^{226}Ra or ^{90}Sr attached to the surface being investigated (Appendix D)." The HRA does not list deck markers as a contaminant of concern for the structures. Furthermore, the last sentence of the first paragraph of Section 2.3 states, "However, it is more likely traces of radioactivity from damaged, discarded, or lost devices could be present on surfaces associated with the Parcel F structures, although the probability of residual radioactivity from radioluminescent devices is still low." Additionally, Section 2.3 ("Nature and Extent of Contamination"), Page 2-3, Sentences 5-7 states, "Radioactive wastes were typically sealed in drums or other packages for transport, and may have been staged on piers or alongside ship berths prior to loading the waste onto barges. The potential for residual radioactivity at the submarine pens and piers from leaking waste packages is low." Both of these origins of contamination tend to yield

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- b. Please clarify how the 5 micro-Curie (μCi) activity was determined to be appropriate for use in MDCR calculations.
 - c. Please explain how the discussed MDCRs are capable of detecting the Derived Concentration Guideline level (DCGL).
7. Section 5.5.6 ("Alpha Beta Static Minimum Detectable Concentration"), Page 5-8, Paragraph 3, Sentence 1:
"Two-minute static measurements will be performed when using the Ludlum Model 43-3." Please correct the Ludlum Model type to "43-37."
8. Section 5.6 ("Gamma Count Rate Surveys"), Page 5-9, Paragraph 1, Last sentence:
a. "The data collected during the gamma scan are evaluated and if all readings are below the instrument specific gamma scan IL, or otherwise do not indicate the presence of an anomaly (e.g., via Z-score analysis, spatial plots, or other statistical analysis), the second stage is not required." Please clarify how it is acceptable that scan results exhibiting measurements above the IL, but acceptable "via either Z-score analysis, spatial plots, or other statistical analysis" will not be investigated further?
b. Paragraph 2: Please clarify when an anomalous scan result will trigger characterization of the anomaly (including isotopic identification).
9. Section 5.7.2: ("Alpha and Beta Static Measurements"), Page 5-10, Paragraph 5, Sentence 2:
"Fifty-four two-minute static measurements will be collected at random locations within each SU." According to Section 5.5.6 ("Alpha Beta Static Minimum Detectable Concentration"), Paragraph 3, Sentence 2: "Five-minute static measurements will be performed when using the Ludlum Model 43-68." Please clarify this in Section 5.7.2.
10. Section 7.1.1 ("Gamma Scan Surveys"), Page 7-1, Paragraph 5, Sentence 2:
"The Finger Pier subsurface areas are not considered impacted based on the site history (see sections 2.2 and 2.3 of this Work Plan)." These sections do not discuss manholes, grates, or subsurface areas. Please provide the basis of the assumption that these subsurface areas do not require

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investigation or characterization prior to potential unrestricted release and public access.

11. Section 7.1.2 ("Alpha and Beta Surveys"), Page 7-4, First Full Paragraph, Sentence 3 to the end of the paragraph:

These sentences continuously state that two-minute static measurements will be collected. However, as addressed in Specific Comment # 9, statics collected using the Ludlum 43-68 should be five minute integrated counts.

12. Appendix A – Sampling and Analysis Plan, Section 17.1 ("Biased Radiological Characterization Sampling"), Page 44, Last Paragraph, Sentence 4 :

"If ^{90}Sr is detected above release criteria, then additional analysis for ^{239}Pu or other alpha emitters may be performed to confirm contamination." Please explain the use of ^{90}Sr as a trigger for ^{239}Pu analysis.